Fitness Manual

City of Austin Fire Department

Message from the Training Chief

One of the most important aspects of being a firefighter is learning to take care of your body. Firefighters must always be prepared to respond at a moment's notice. As part of our cadet training we are working to develop the highest performing fire athlete that we can produce. We know that a certain amount of cardiovascular endurance is required but so is physical strength and power. The goal of our Physical Fitness Program is to produce fire athletes that learn how to be fit and strong while developing habits that will enable them to have a successful career. Specifically; injury prevention, strength, conditioning and power. This manual is our attempt to standardize fitness and ensure that we provide consistent, guided and professional fitness training. Through teaching of proper form and technique we build strength and reduce the chance of injury.

Introduction

The following information is provided to you as a resource to help you stay healthy throughout your career. Included in this packet are injury treatment and prevention strategies, nutrition information, foam rolling routines, and much more. One benefit of your employment with the City of Austin is the availability of the ***Austin Public Safety Wellness Center***. There are a variety of health and psychological services accessible, free of charge, to all first responders. Full-time staff at the Wellness Center include medical doctors, registered nurses, exercise physiologists, psychologists, and worker's comp staff.

Fitness Services provided by the exercise physiology staff include….

- Fitness assessments
- Health coaching
- Tactical athlete programming
- Injury rehabilitation counseling
- Exercise tutorials
- Station visits
- Open gym hours

Visit the wellness center website to learn more.

Exercise Physiology Staff

Jeff Johnson

Jeff specializes in tactical strength and conditioning, injury management, and return to activity protocols.

Hillary Lee

Hillary specializes in injury rehabilitation, swim training, and health coaching.

Sebastian Olave

Sebastian specializes in all areas of strength and conditioning including tactical athlete programming, Olympic weightlifting, powerlifting, and recovery methods.

Robyn Paulsen

Robyn specializes in injury prevention and rehabilitation.

Injury Prevention and Treatment

The physical nature of the job puts firefighters at high risk for injury. This is especially true for cadets. Fire cadets are only allowed to miss or modify a minimal number of days of class due to injury. Proper prevention and treatment of the common injuries listed below can significantly reduce recovery time.

Shin Splints

Symptoms

- Tenderness along the inside of the shin bone
- Mild swelling in the lower leg may occur

Causes

- Sudden increase of athletic activity, especially running and other high impact activities
- Inadequate warm-up
- Weak ankles
- Tight calf muscles and/or tight Achilles tendon
- Poor arch support in athletic shoes/bunker boots
- Improper or old shoes

Prevention

- Replace athletic shoes when worn-down treads are noticeable
- Use orthotics in bunker boots
- Always do a thorough warm-up before exercise
- Gradually increase exercise volume and intensity
- Perform calf and Achilles stretches regularly

Treatment

- Ice shins 3-4 times per day for 10-15 minutes each time
- Avoid high impact activities and replace with rowing, cycling, swimming, etc.
- Run on a track or treadmill

Plantar Fasciitis

Symptoms

- Stabbing feeling in the bottom of the foot near the heel
- Pain is usually worse first thing in the morning and after (not during) exercise

Causes

- High-impact exercises such as running, ballistic movements, and prolonged standing on hard surfaces
- Excess bodyweight that leads to increased pressure on the bottom of the foot
- Flat feet or high arches

Prevention

- Wear footwear with adequate arch support
- Maintain a healthy bodyweight
- Regularly stretch the Achilles tendon
- Gradually increase exercise volume and intensity

- Strengthen the muscles of the foot with exercises like towel curls or marble pickups

Treatment

- Avoid high impact activities and replace with rowing, cycling, swimming, etc.
- Place a frozen water bottle under the foot and roll it back and forth
- Roll a lacrosse or tennis ball under the foot

Patellofemoral Pain Syndrome aka Runner's Knee

Symptoms

- Dull pain behind or around the kneecap
- Aggravated by squatting, running (especially downhill), walking down stairs, and prolonged sitting

Causes

- Tight hamstring and calf muscles
- Weak quadriceps muscles
- Sudden increase of athletic activity, especially running and other high impact activities

Prevention

- Gradually increase exercise volume and intensity
- Regularly stretch the hamstring and calf muscles
- Engage in regular strength training focusing on developing the quadriceps and the glutes

Treatment

- Decrease mileage and intensity of exercise
- Avoid excessive bending
- Stretch the calf and hamstring muscles

Ankle Sprain

Symptoms

- Swelling
- Bruising
- Tenderness
- Pain with weight-bearing

Causes

- Unnatural twisting of the ankle

Prevention

- Perform regular ankle strengthening exercises
- Wear sturdy, quality, supportive shoes
- Warm up properly before exercise

Treatment

- RICE (Rest/Ice/Compression/Elevation)

Iliotibial Band Syndrome

Symptoms

- Pain in the lateral side of the knee that progressively gets worse over time
- A snapping and/or popping sound may be heard in the knee

Causes

- Repetitive lower body movements (running, cycling, high-volume squatting, etc.)
- Tight iliotibial band
- Weak hips and glutes
- Poor arch support in athletic shoes/bunker boots

Prevention

- Regularly stretch and foam roll the IT (iliotibial) band
- Engage in a regular strength program focusing on the hip and glute muscles
- Make sure your shoes offer proper support

Treatment

- Take a break from high-impact activities or those that repetitively bend the knee
- Stretch and foam roll the IT band

Lower Back Injuries

Symptoms

- Pain and/or swelling in the lower back
- Muscle spasms in the lower back

Causes

- Improper lifting technique
- Sudden twisting or bending movements

Prevention

- When lifting heavy objects maintain good posture with the spine in alignment
- Perform regular core strengthening exercises
- Maintain a healthy body weight
- Stretch the lower back and hamstrings on a regular basis
- Get help when lifting heavy objects

Treatment

- Stop activity immediately
- Ice the affected area
- If a dull pain is present after 72 hours alternate between heat and cold treatments

Shoulder Injuries

Symptoms

- Onset of pain is not related to acute injury
- Loss of motion at the shoulder joint
- Increased pain when moving the arm above shoulder level

Causes

- Repetitive motion of the shoulders
- Weak rotator cuff muscles
- Tight pectoralis muscles
- Weak upper back muscles

Prevention

- Perform regular rotator cuff strengthening exercises
- Engage in regular stretching of the pectoralis muscles
- Perform regular back strengthening exercises

Treatment

- Stop or limit the movements that cause pain
- Apply ice packs 2-3 times a day for 15 minutes
- Correct posture by continuously squeezing the shoulder blades together

RICE

The acronym RICE stands for Rest/Ice/Compression/Elevation and is an effective treatment strategy for many minor injuries. RICE should be used for the first 72 hours after the injury occurs. Ice is most effective when it is applied to the injury site for 15-20 minutes. Rest, elevate, and apply compression as often as you can in the first 72 hours after the injury.

If symptoms of the injury are still present after 72 hours, applying heat to the area may be helpful. Place a hot pack on the injury site for 15-20 minutes then immediately follow with the RICE protocol. Do not use heat on the injury within the first 72 hours as it could potentially aggravate it further.

Injury Prevention and Rehabilitation Exercises

Do three sets of 10-15 repetitions of each exercise

Upper Body

Band Pull-A-Parts

Shoulder Internal Rotation


Shoulder External Rotation



Shoulder Front Raise


Shoulder Lateral Raise

Lower Body

Pistol Squat

Single Leg Deadlift

Terminal Knee Extension

Single Leg Glute Bridge

Stretching

Regular stretching can prevent injury by reducing muscle tension, improving circulation, and speeding recovery after workouts or strenuous calls. There are two methods of stretching; static and dynamic.

- ***Static*** – holding the muscle in a stretch position, with no movement, for 15-30 seconds
  - Most effective post-exercise
  - Only stretch to the point of slight discomfort. No pain should be felt.

- ***Dynamic*** – slowly moving the muscles through the full range of motion
  - Ideal to use in warm-ups
  - Should mimic the movements the muscles and joints go through in a specific activity

Foam Rolling

Foam rolling is a form of self-massage and is used to loosen tight muscles before and after a workout. It can also help work out knots in the muscle. Foam rolling is entirely self-paced. You determine how much pressure to apply to each area and how many times you are comfortable rolling over the muscle.

Muscle Soreness

Once soreness sets in, the tendency is to become inactive because movement is uncomfortable. Light exercise, however, will reduce soreness and help with the recovery process. If you feel sore take a walk, go on an easy bike ride, swim, or do any other form of low resistance cardio.

Another method to reduce soreness after a workout is to take an ice bath. Partially fill the tub with cold water, throw in a couple10lb bags of ice, and sit in the tub for 10 – 15 minutes. This will feel very uncomfortable initially but after a few minutes your body will adapt to the cold temperature. Ice baths are mainly used to prevent soreness and are most effective when taken after a workout but before the soreness sets in.

Stretching

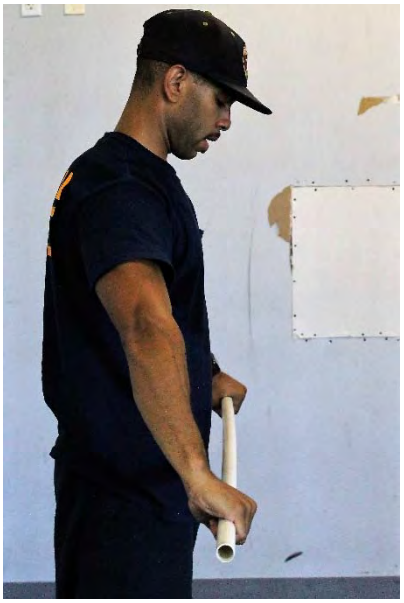
Perform the following static stretch routine 2-3 times a week, post-exercise or during your downtime, holding each stretch for 20 seconds or longer. Complete 3 rounds of each stretch.

Groiner
(Hip Flexors)

Kneeling Hip Flexor

Pigeon Pose
(Hip flexors, glutes, hip rotators)

Seated Lower Back Stretch



Shoulder Dislocates
(Chest, shoulders)

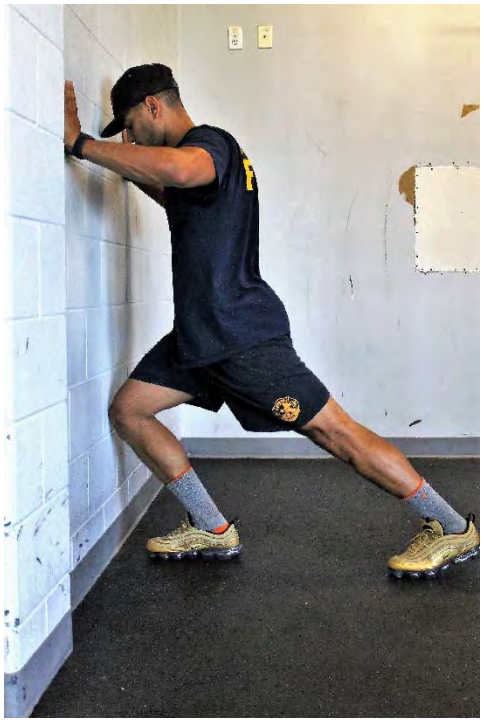
Standing Shoulder Opener

Standing Chest Opener

Standing Hamstring Stretch

Standing Calf Stretch

Standing Achilles Stretch



Standing Ankle Flexion Stretch

Foam Roller Exercises

The Foam Roller is used as a hands-free form of myofascial release. It is an excellent tool for stretching tight muscles. The pressure of your body weight against the Foam Roller helps to release the restrictions and adhesions in the soft tissue and relax the muscle that is being worked on.

Basic Technique

- Warm-up the area by making 6-8 slow, controlled passes along the length of the muscle. Ensure the muscle stays relaxed during all passes and avoid crossing any joint lines.
- Scan the area for any tender spots and continue to oscillate on this area until the discomfort begins to diminish. You should never feel any numbness or tingling while scanning over the muscle. If these symptoms occur, discontinue use and advise your Airrosti Provider.
- Once the area is no longer sensitive, scan for other tender spots and repeat.
- When the area is free of pain, make 2 additional slow, controlled passes over the entire length of the muscle.
- Rest briefly before continuing on to the next muscle group.
- These exercises should be performed twice daily until tenderness has reduced.

Upper Trapezius (Upper Shoulder)

Posterior

- While standing facing away from an empty wall at a slight angle, place the Foam Roller between your upper trapezius (shoulder) and the wall.
- The Foam Roller should be angled up at approximately 45 degrees.
- Stand 3-4 feet away from the wall and (gently at first) lean back, pushing your upper trapezius into the Foam Roller.
- Starting at the shoulder, roll the trapezius slowly 1-2 inches at a time shifting gradually towards the base of the neck.
- Do not roll the upper neck.

Anterior

- While standing towards an empty wall at a slight angle, place the Foam Roller between your upper trapezius (shoulder) and the wall.
- The Foam Roller should be angled down at approximately 45 degrees.
- Stand 3-4 feet away from the wall and (gently at first) lean forward at and angle, pushing the front of your upper trapezius into the Foam Roller.
- Starting at the shoulder near your collar bone, roll the trapezius slowly 1-2 inches at a time shifting gradually towards the base of the neck.
- Do not roll the upper neck.

Posterior Shoulder

- While standing facing away from an empty wall at a slight angle, place the Foam Roller between your posterior deltoid (shoulder) and the wall.
- Reach your same side arm across your chest to gently stretch the posterior shoulder.
- Stand 3-4 feet away from the wall and (gently at first) lean back, pushing your posterior shoulder and shoulder blade into the Foam Roller.
- Find 5-6 tender areas in that muscle that covers the shoulder blade and roll back and forth over them 5-6 times each.

- Shift your arm position to reach up and down, and rotate your body slightly to find more tender areas.

Discontinue if symptoms such as numbness, tingling or radiating pain occur during

Thoracic Spine (Mid-Back)

Wall

- While standing facing away from an empty wall, place the Foam Roller between your midback and the wall.
- Stand 3-4 feet away from the wall and (gently at first) lean back, pushing your mid back into the Foam Roller.
- Reach your arms forward, placing your elbows together to move your shoulder blades out of the way.
- Slightly bend and straighten your legs to move the Roller up and down along the musculature of your mid-back.
- Roll 5-10 degrees to the right or left to emphasize one side.

Floor

- Begin with Roller around the mid back and balance with the back flat.
- Place arms across the chest.
- Slowly roll to just above the shoulder blades.
- Roll 5 degrees to the right or left to emphasize one side.

Thoracic Spine Neutral

Thoracic Spine with Rotation

Lumbar Spine (Low-Back)

Floor

- Lying in the supine position, place the Foam Roller in the arch of your lower back.
- Place the soles of your feet on the floor.
- Rotate 5-10° to the R/L supporting yourself with your forearm.
- Roll the Foam Roller along the arch of the back using your legs to move up and down.

Wall

- While standing facing away from an empty wall, place the Foam Roller between the curve of your lumbar spine and the wall.
- Stand 3-4 feet away from the wall and (gently at first) lean back, pushing your low back into the Foam Roller.
- Slightly bend and straighten your legs to move the roller up and down along the musculature of your low back.
- Roll 5-10° to the right or left to emphasize one side, taking care to avoid rolling on the lower ribs, which will be sharply tender should you roll over them.

any of the above exercises and please notify your Aimosti Provider immediately.

Hip Flexors

- With the Foam Roller on the ground, slowly lower yourself into plank position, placing the end of the Foam Roller approximately half way in between your belly button and the front corner of your hip.
- Slowly roll up and down scanning for tender areas.
- Lower your opposite side slowly to the ground to change the angle of the Roller.
- You may need to stabilize the Roller with your hand if it starts to slip out from under you.
- Find 4 - 5 tender areas and rock back and forth on them 5 - 6 times each.
- Keep the Foam Roller on your abdomen, as it should never be on your ribs.



Piriformis & Glutes

- Sit on Foam Roller and place ankle over opposite knee. Tilt to the side of the bent knee, focusing on one glute at a time.
- Balance with your hands and opposite foot.
- Scan for tender spots and hold until pain diminishes.
- Roll from top to bottom of glute.
- Cross opposite ankle over knee and Foam Roller opposite glute.

Adductors (Inner Thigh)

- Balance on elbows and toe of opposite leg.
- Slowly roll from the inside if the knee up into the groin.
- Alternately change leg position slightly while scanning for tender spots and holding until pain diminishes.
- Shift weight toward Roller for more pressure.


Discontinue if symptoms such as numbness, tingling or radiating pain occur during

Quadriceps (Thigh)

- Balance on elbows in the plank position with the quads on the Foam Roller.
- Roll from just above the knee cap to the top of the thigh.
- Use your core muscles to scan up and down the legs. Be careful not to round or arch the lumbar spine.
- Scan for tender spots and hold until pain diminishes.
- To place a greater emphasis on one leg, cross over the back of the other leg or simply shift body weight to one side.

Isolate all three areas of the quadriceps: Neutral, Internal Rotation, and External Rotation.


Quadriceps Alternate View (Plank Position)


Quadriceps with Internal Rotation


Quadriceps with External Rotation

Iliotibial Tract (IT Band)

- Balance on forearm with your outer thigh on the Foam Roller.
- Slowly roll from the top of the knee to the top of the hip rotating 5° as you work your way past the hip, avoiding the hip bone.
- Scan for tender spots and hold until pain diminishes.
- Lower top leg for support, if necessary.


Iliotibial Tract (Start)


Iliotibial Tract (Finish)


Iliotibial Tract with Support

any of the above exercises and please notify your Aimosti Provider immediately.

Hamstring

- Balance on hands, roll from the glutes to just above the back of the knee.
- Scan for tender spots and hold until pain diminishes.
- Isolate medial and lateral hamstrings on the end of the Foam Roller by rotating your leg to point your toe inside and outside.
- Emphasize one side by crossing your legs at the knee.
- Stabilize yourself by putting one leg down, if necessary.

Gastroc / Soleus (Calf)

- Balance on hands, roll from just below the back of the knee to the Achilles.
- Scan for tender spots and hold until pain diminishes.
- Emphasize one side by crossing your lower legs.
- Isolate all three areas of the calf: Neutral, Internal Rotation, and External Rotation.

Gastroc/Soleus Neutral Position

Gastroc/Soleus

Gastroc/Soleus Internal Rotation

Gastroc/Soleus External Rotation

Discontinue if symptoms such as numbness, tingling or radiating pain occur during

Peroneals (Lower Leg)

- Position your body on all fours with the outside of the lower leg resting on the Foam Roller.
- Roll on the lateral (outside) portion of the shin just below the knee to just above the ankle.
- Scan for tender spots and hold until pain diminishes.


Peroneals


Alternate Position

Foam Roller Mobility

The following exercises are to improve mobility between the major segments of the spine.

Thoracolumbar

- Place the Foam Roller at the thoracolumbar junction (level with the lower angle of the shoulder blade.)
- While keeping head on the ground, slowly lower glutes to the floor.
- Repeat 10 times.

Lumbosacral

- Place the Foam Roller at the lumbosacral junction (just above the pelvis/hip bone).
- Slowly lower one leg at a time.
- Repeat 10 times (5 per leg).

any of the above exercises and please notify your Aimosti Provider immediately.

Nutrition

The unpredictability of a firefighter's job can lead to eating unhealthy and high calorie foods out of convenience. A proper diet is essential to maintain a healthy weight, prevent health issues, and perform the daily activities of the job. Understanding some basic nutrition facts can help make healthy food choices.

Protein

- Contains 4 calories/gram
- Building blocks for body structures
- Composed of amino acids, some of which need to be delivered through the diet
- Should consume 0.8 – 1.2 grams of protein per kilogram bodyweight
- Sources
    - Whey protein powder, unprocessed poultry products, lean red meat, fish, peanuts, beans

Carbohydrates

- Contains 4 calories/gram
- Stored in the liver and muscles as glycogen, a quick and efficient source of energy
- **Simple carbohydrates** – increase blood sugar levels very quickly and do not lead to a feeling of fullness
    - Sugar, fruit juice, soda, candy, jams/jellies, honey, syrup
- **Complex carbohydrates** – take longer to be broken down and don't cause an immediate spike in blood sugar
    - Increase feelings of fullness
    - Typically have more nutrients and fiber than simple carbs
    - Whole grains, green vegetables, sweet potatoes, corn, beans, lentils, peas

Fats

- Contains 9 calories/gram
- As a person becomes more fit the body can use fat as an energy source sooner
- Saturated – fats derived from animals such as milk products and fatty meats
    - Eat in moderation
- Unsaturated – typically come from plant sources and fish
- Trans fats – found in processed food (chips, baked goods, fried foods, margarine, etc.)
    - Avoid consuming foods containing trans fats as much as possible
- Omega-3 fatty acids – a type of unsaturated fat that can decrease inflammation and level of post-workout muscle soreness
    - Sources: fish oil, flaxseed oil

Alcohol

- Contains 7 calories/gram
- The body processes the calories from alcohol first, leaving the calories from food unprocessed and stored as fat
- Alcohol can cause dehydration, problems with memory recall, decreased muscle growth, and earlier onset of fatigue during exercise
- Due to the intense nature of the academy it is strongly recommended that you DO NOT consume alcohol during this time

Fiber

- Soluble fiber – slows digestion and increases feelings of fullness
    - Nuts, seeds, beans, oat bran, barley
- Insoluble fiber – promotes movement of material through the digestive system
    - Whole wheat flour, vegetables, potatoes, skins of fruits and vegetables
- Adequate fiber intake can lower your cholesterol

Pre and Post Exercise Nutrition

- Pre-exercise
    - Make sure to eat a high-carbohydrate snack before vigorous exercise to enhance performance
        - 90+ minutes before exercise – eat a high carbohydrate "real" food (fresh fruit, oats, whole wheat bread) **OR**
        - 30/60 minutes before exercise – eat an easily digestible high carbohydrate snack (meal replacement shake, sports drink, small peanut butter and jelly sandwich, granola bar)
- Post-exercise
    - Try to eat a mix of protein and carbohydrates within 30 minutes after exercise (for example 30g whey protein powder + 30g Gatorade or chocolate milk or a peanut butter and jelly sandwich)

Fluid Replenishment

- Dehydration can cause symptoms such as fatigue, confusion, muscle cramps, rapid heartbeat, low blood pressure, and compromised kidney function
    - Water loss equal to 5% of bodyweight can reduce muscular work capacity by 20-30%
- During calls involving highly active environments a firefighter can lose 2-4 quarts of fluid in an hour
    - The body can only absorb 1 quart of fluid an hour so it's important to hydrate before, during, and after physical activity to maintain fluid balance
- Physical activity can blunt the thirst mechanism so don't wait to feel thirsty before you drink
- To determine your fluid replacement needs weigh yourself before and after exercise. Aim to replace 150% of the volume of fluid that was lost
    - Example: If you lose 1lb during exercise you will need to drink 1.5lbs (3 cups) of fluid. Search "online unit conversion calculator" and there will be many different sites to convert the units for you.
- Water is the best hydration source. Sports drinks are full of sugar and other unnecessary substances. Stick with water to achieve optimal hydration.

Heat Illness Prevention

The heat encountered during fires and other emergency situations can lead to significant problems if proper hydration and other preventative measures are not taken. During the academy you will often find yourself spending a great deal of time outside in your turnouts in the warm weather. It is essential to properly hydrate BEFORE you go out in these conditions. Once you are dehydrated it is not possible to fully replenish your water stores once you are in hot environments.

It is inevitable that some cadets will not consume enough liquid before the work day so it is very important to recognize the signs of heat illness so you can prevent significant heat-related health issues.

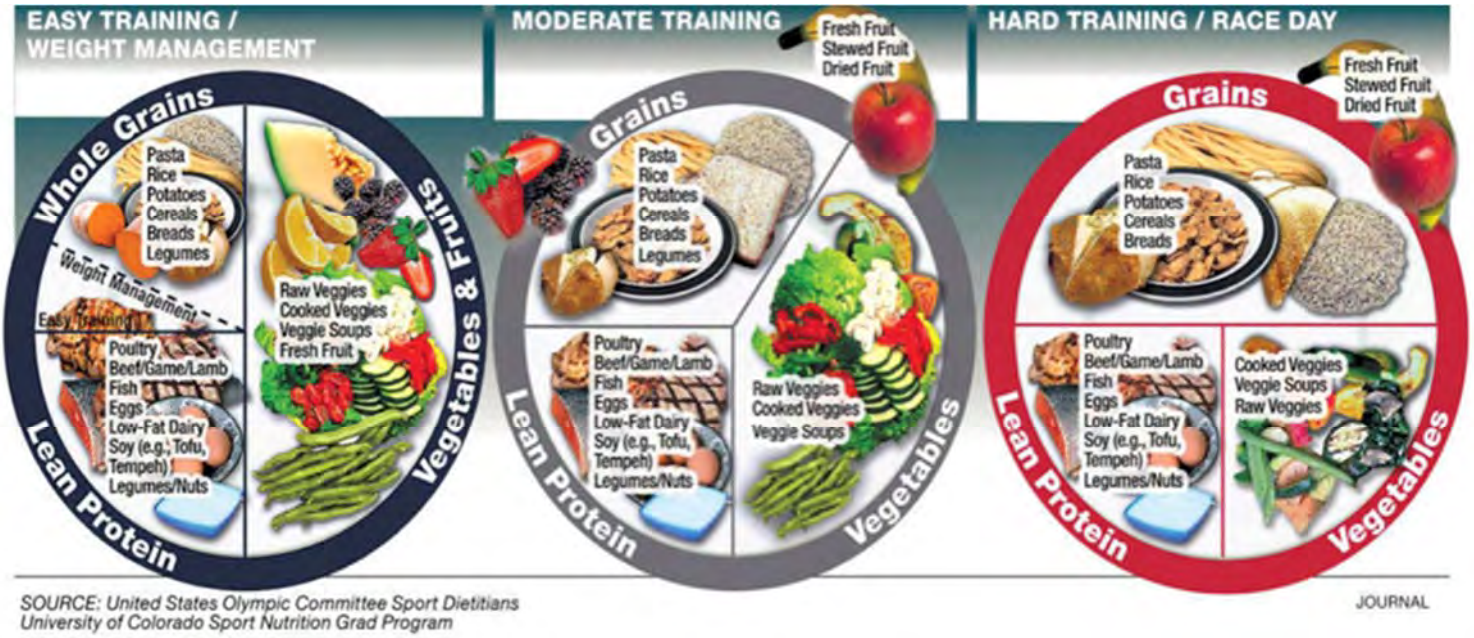
- ***Symptoms of heat exhaustion***
  - Dizziness, goose bumps even when in the heat, excessive fatigue, weak and rapid pulse, muscle cramps, nausea, and headaches
- ***Treatment of heat exhaustion***
  - Stop all activity and rest, move to a cooler place, drink cool liquids
- ***Symptoms of heat stroke***
  - High body temperature, altered mental state and/or erratic behavior, hot and dry skin, nausea, rapid breathing, rapid heart rate
- ***Treatment of heat stroke***
  - Stop all activity and rest, move to a cooler place, remove excess clothing, cool the person by whatever means necessary (ice packs, etc.)

Fire Academy: Recovery

A crucial element in your success at the academy will be your ability to recover. You are at the academy 8-10 hours daily, but how you spend the other 14-16 hours will drastically affect your performance. *Be a 24-hour cadet*. Training hard requires that you *recover harder*. You can't control what happens at academy, but you are 100% in control of your sleep, diet, and active recovery exercises.

Fueling

As a cadet, your body must perform like a high-performance vehicle. You wouldn't fuel your Ferrari with low-grade gasoline and expect it to outperform the competition. You shouldn't expect your body to do so either. Food is fuel, and low quality fuel will only result in low quality performance. The plates below provide a template to help you build your own healthy meals.



As outlined in the previous section, each macronutrient (protein, carbohydrate, fat) has a purpose in aiding with your recovery at the Fire Academy. Depending on your overall activity level, your needs for each one will vary. Fire Academy is very physically and mentally taxing and requires fueling every 2-3 hours and hydrating constantly.

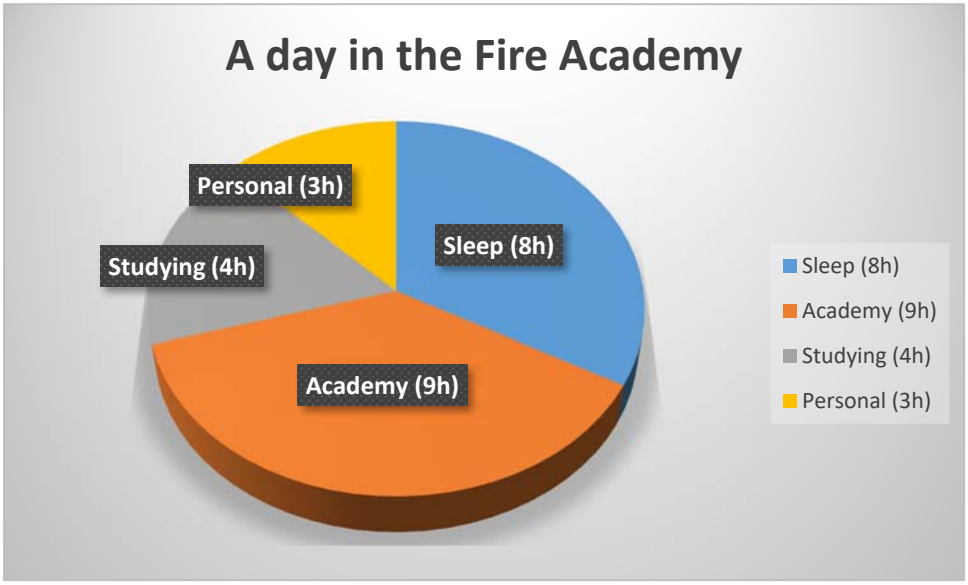
- **Hydration Goal**: Urine should be light lemonade color to clear to ensure proper hydration. Don't wait until you *feel* thirsty to take in water.

- **Daily Fueling Goal**: take in a combination of grains (carbohydrates), lean protein, and vegetables every 2-3 hours. This is accomplished through a combination of meals and snacks.

    - **Meal Goals**
        - 3-4 meals/day that use the Hard Training/Race Day plate portion template above.
        - Don't be afraid to get seconds. You will need the energy day after day.
    - **Snack Goals**
        - Between meals, your snacks should be a combination of **both** carbohydrates and protein. Below are examples:
            - A smaller version of what you prepared for breakfast or lunch
            - 8-12oz of chocolate milk
            - Beef Jerky and some fruit
            - Hard-boiled eggs and a granola bar
            - Greek Yogurt with fruit and/or honey
- **Preparation is key to your success**. You will have access to multiple refrigerators and microwaves so bring your meals and snacks prepped.
- Fire Academy is **NOT** the time to "diet" or otherwise restrict calories.
- Caffeine Consumption
    - 3mg/kg bodyweight max (Ex. 90kg (198lb) individual's daily max would be 270 mg)
    - 80-150 mg caffeine in a cup of coffee
    - Energy drinks are not recommended because of high sugar content and lack of regulation on ingredients contained within the drink
    - Caffeine is a diuretic (it dehydrates you), so make sure you are taking enough water to stay hydrated.
- Alcohol Consumption
    - Will **NEGATIVELY** affect your performance in 3 ways:
        - Alcohol will dehydrate you
        - After drinking, your body stops digesting carbohydrates and protein to break down the alcohol, significantly affecting recovery
        - Alcohol negatively affects your sleep
    - It is highly recommended that you abstain from alcohol during the academy.

Sleep

One of the most overlooked components of recovery is sleep. The duration, stress, and intensity of academy life, requires you to manage your time very carefully so you do not sacrifice sleep for additional personal or study time. The diagram below gives you an idea of what a typical day should look like.



- Sleep Benefits
  - Improves brain function including cognition, concentration, productivity, and performance (Important with weekly tests! Don't cram!)
  - Increases natural human growth hormone (HGH) levels (builds physical strength and durability)
  - Improves immune function (It's a long 6 months to stay healthy)
  - Improves speed, accuracy, and reaction times (Crucial to minimize the risk of injury)

- **Daily Sleep Goal:** Get 7-9 hours of *quality sleep* every night.
  - *Quality Sleep* consists of the following:
    - Block blue light (phones,computers,tablets) for *at least* 30 minutes before getting to bed
    - Uninterrupted sleep (silence phone and unnecessary alarms)
    - Make your room pitch black (black-out curtains, sleep mask, doors closed)
  - Take naps when/if you can
    - Simulate *Quality Sleep* conditions as closely as possible
    - NOT a substitute for *Quality Sleep*, but will help in the short term
  - Turn thermostat to a comfortable temperature for **you**
  - Practice belly breathing as a method to bring your heart rate down and relax
  - If possible, limit caffeine consumption after 1500 hours

Active Recovery

Active recovery is defined as low-impact activity that promotes blood flow, mobility, and an increase in general fitness. It should consist of the following:

- 45 minutes-1 hour total (if structured)
- Low impact aerobic activity (heart rate elevated between 120-140 for 20-30 minutes)
  - Examples: Biking, Walking, Hiking, Swimming, Rowing, Yoga, etc
- Total body roll with emphasis on painful spots (usually where there are deficits)
- Total body stretch with emphasis on mobility deficits

Body soreness is an inherent part of academy life. It is a signal that your muscles are temporarily broken down. With proper nutrition, sleep, and active recovery, your body will adapt to the workload and become more resilient. Active recovery will help work through this soreness by flushing waste products out of the muscles and bringing in nutrient-rich blood to these tissues. It is ***highly encouraged*** as a part of your weekend routine as a cadet.